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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,890	10/23/2001	Peter Hanselka	112740-254	3057

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EXAMINER	
SHAH, NILESH R	

ART UNIT	PAPER NUMBER
2127	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/889,890	HANSELKA ET AL.	
	Examiner	Art Unit	
	Nilesh Shah	2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/23/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-25 are presented for examination.

2. Claim 5 is missing. The remaining claims 6-26 have been renumbered as claims 5-25. Applicant is required to correct the claims numbering in responds to this office action.

Claim Objections

3. Claim 25 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on any other multiple dependent claims (claims 2-24). See MPEP § 608.01(n). Accordingly, the claim 25 not been further treated on the merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) The following terms lack antecedent basics:

i. The multi-value load indication value- claim 3

ii. The values normal, high and overload - claim 3

(b) The claim language in the following claims is indefinite

a. As per claim 1 and 24, it is unclear how the load distribution probabilities is determined? (i.e is there a formula or a predefined method?) Also in claim 1, it is unclear when the step of the typically distributable proportion V of a typical task its offered load Ai takes place. It is also unclear how the values of k and i can have the same initial values of 1 and 2.

b. As per claims 2 -23 and 25 the use of the word "characterized" is inappropriate since 35 U.S.C. 112, second paragraph, required the claim to particularly point out and distinctly claim the invention, not merely its characteristics. Furthermore, if this word is eliminated, then the remaining format of the claim should be modified in order to reflect this correction.

c. As per claims 2 –25, it is uncertain what is meant by "one of the preceding claims" (i.e. all of the previous claims ahead of the current claims.).

d. As per claim 3, it is unclear if the three ranges of utilizations is suppose to have an overlap (i.e. 70% -75% falls in both the Normal and High range how do you know which value you are suppose to define the overlap values? Also 85% falls under both High and Overload).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-11 and 24- 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naganuma et al (5,241,677) (hereinafter Naganuma) in view of Ballard (6,078,960).

8. As per claim 1, Naganuma teaches the invention substantially as claimed including a method for load distribution in a multiprocessor system, particular in a multiprocessor system of a communication system, in which tasks that arise can be processed by a plurality of processors MP: (where 1,2,...,n) under real-time conditions, having the following iterative method steps that are repeated at time intervals CI (col. 5 lines 44-67): each processor MPS indirectly or directly communicates its load indication value Mpbi: to the respective other processors MPk (where each processor MP: determines its load

distribution probabilities pu (where j = 1,2,...n) as a function of the load indication values Mpbik Of said other processors MPk(col. 2 lines 35- 40; col. 3 lines 18-40; col. 9 lines 8-20); and

on the basis of its quota qi and its load distribution factors pij, each processor MPi distributes its distributable load to other processors Mpk if its distribution quota qi(new) exceeds a predetermined value qv (col. 3 lines 18-40; col. 9 lines 8-20;col. 5 lines 44-67).

9. Naganuma does not specifically teach the use of determining actual load.

Ballard teaches each processor MPi determines its actual current load Ys (col. 4 lines 40-45; col. 6 lines 40-47) and estimates as a function of previously communicated distribution quotas qi(old) and the typically distributable proportion V of typical task its offered load Ai, which leads to multi-value load (col.5 lines 30-40) indication value (balancing indicator) Mpbi the distribution quota qz representing the load proportion which can be distributed to other processors Mpk (col. 4 lines 40-45; col. 6 lines 40-47);and

each processor MPS determines its distribution quota qi(new) as a function of its actual current load Y: and the load distribution factors pij (col.5 lines 30-40).

10. It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of Naganuma and Ballard because Ballards's method of determining the actual load of the processor would improve Naganuma's system by being able to know the actual load of the process to determining if a processor can handle more work or needs to have less assigned to that processor, thus improving the overall efficiency of the system.

11. As per claim 2, Naganuma teaches method characterized in that the estimated offered load Ai of a processor MP: is calculated according to the formula Ai:=Yi/(1-qiV) (col. 3 lines 24-39; col. 5 lines 9-20; col. 10 lines 21-50).

12. As per claim 3, Ballard teaches method characterized in that the multi-value load indication value (balancing indicator) Mpbii can assume three discrete values, preferably the values NORMAL, HIGH and OVERLOAD, where NORMAL corresponds to a processor capacity utilization of from 0 to 75%, HIGH corresponds to a processor capacity utilization of from 70% to 85* and OVERLOAD corresponds to a processor capacity utilization of from 85% to 100% (fig. 4a; 4b; col. 2 lines 50-65; col. 6 lines 10-45).

13. As per claim 4, Ballard teaches method characterized in that the load indication value (balancing indicator) Mpbii is subject to a hysteresis with regard to changes (col. 4 lines 40-45; col. 6 lines 40-47).

14. As per claim 5, Ballard teaches method characterized in that the average or maximum distributable proportion of a typical task CallP is regarded as the typical distributable proportion V (col. 4 lines 40-45; col. 6 lines 40-47).

15. As per claim 6, Ballard teaches method characterized in that the average or maximum distributable proportion of a typical task is continually determined as moving average or moving maximum value over a predetermined time period to (col. 6 lines 57-66).

16. As per claim 7, Ballard teaches method characterized in that the following holds true for the predetermined time period ts: to >> CI (col. 6 lines 57-66; col. 8 lines 2-15).

17. As per claim 8, Ballard teaches method characterized in that an average or maximum task is assumed as the typical task (col. 6 lines 57-66).

18. As per claim 9, Ballard teaches method characterized in that the average or maximum task is continually determined as moving average or moving maximum value over a predetermined time period to (col. 4 lines 40-45; col. 6 lines 40-47; col. 6 lines 57-66).

19. As per claim 10, Ballard teaches method characterized in that the following holds true for the predetermined time period to: ts >> CI. (col. 6 lines 57-66; col. 8 lines 2-15).

20. As per claim 11, Ballard teaches method characterized in that the following holds true for the predetermined value qv of the distribution quota qi starting from which the processor MPY distributes distributable load to other processors MPk: O.05<qv<0.3, preferably 0.1<qv<0.25, preferably qv=0.2 (col. 6 lines 57-66; col. 8 lines 2-15).

21. Claim 24-25 are rejected based on the same rejection as claim 1 above.

Allowable Subject Matter

22. Claims 12-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nilesh Shah whose telephone number is (571)272-3771. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng An can be reached on (571)272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MENG-AL T. AN
SUPERVISORY PATENT EX[illegible]
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